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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,321	07/23/2001	Kenichi Myokan	0941.65715	3590

7590 03/13/2003

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EXAMINER

LE, MINH

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/911,321

Applicant(s)

MYOKAN ET AL.

Examiner

Minh Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibuya et al. (U.S Pat. No. 5,636,082)

As per claim 1, Shibuya shows in Fig. 1 a disk unit for reading information from or writing information to a disk 1 by means (the transducer) of a head 51 supported by an actuator 5, the disk 1 and the actuator 5 being contained in a housing 3 of the disk unit, the disk unit comprising a shroud 7 (See Fig. 10) having a face perpendicular to a surface of the disk 1 and opposing a peripheral edge of the disk 1, a spoiler 23 (See Fig. 10 and col. 5, lines 35-36) having a given height in direction perpendicular to the surface of the disk 1 and extending above the surface of the disk from the peripheral edge to a center of the disc 1.

As per claim 5, Shibuya shows in Fig. 10 a disk unit wherein the shroud 7 and the spoiler 23 are formed integrally with each other.

As per claim 6, Shibuya shows in Fig. 10 a disk unit wherein the face of the shroud 32 is curved along the peripheral edge of the disc 1.

As per claim 7, Shibuya shows in Fig. 2 a disk unit wherein the face of the shroud is flat.

As per claim 8, Shibuya shows in Fig. 1 a disk unit for reading information from or writing information to a disk 1 by means (transducer) of a head 51 supported by an actuator 5,

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the disk 1 and the actuator 5 being contained in a housing 3 of the disk unit, the disk unit comprising a spoiler 23 (See Fig. 10 and col. 5, lines 35-36) having a given height in direction perpendicular to the surface of the disk 1 and extending above the surface of the disk from the peripheral edge to a center of the disc 1, the spoiler 23 being provided in proximity to a boundary between a first area 9 (See Fig. 1) where an inner wall of the housing runs side by side with the peripheral edge 4 of the disk and a second area (the area near to the actuator 5) where a distance between the inner wall and the peripheral edge becomes longer than in the first area 9.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4, 9-11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibuya in view of Leonard et al. (U.S Pat. No. 4,885,652)

As per claim 11, Shibuya shows in Fig. 1 a disk unit comprising a disk 1, an actuator 5 for supporting a head 51 that reads information from or writes information to the disk 1, a first member 2 (See Fig. 10) for regulating airflow generated by disk rotation so that the airflow flows in a rotational direction of the disk, and a second member 23 (See Fig. 10) for receiving and regulating the airflow regulated by said first member 2.

Shibuya does not disclose a disc unit wherein the second member functioning as to prevent the airflow from flowing toward the actuator.

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Leonard shows in Fig. 1 a disc unit having a second member 12 (the left one) functioning as to prevent the airflow flowing toward the actuator (the actuator in slot 6 is not shown).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a disc unit wherein the second member functioning as to prevent the airflow from flowing toward the actuator, in order to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34).

As per claim 17, Shibuya shows in Fig. 1 a disk unit comprising a disk 1, an actuator 5 for supporting a head 51 that reads information from or writes information to the disk 1, an airflow-regulating member 23 (See Fig. 11) for receiving regulating airflow generated by disk rotation, the airflow-regulating member 23 being provided in proximity to a boundary between a first area 9 where an inner wall of the housing runs side by side with the peripheral edge 4 of the disk and a second area (the area near to the actuator 5) where a distance between the inner wall and the peripheral edge becomes longer than in the first area 9.

Shibuya does not disclose a disc unit wherein the airflow-regulating member functioning as to prevent the airflow from flowing toward the actuator.

Leonard shows in Fig. 1 a disc unit having an airflow-regulating member 12 (the left one) functioning as to prevent the airflow flowing toward the actuator (the actuator in slot 6 is not shown).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disk unit of Shibuya having the airflow-regulating member functioning as to prevent the airflow from flowing toward the actuator, as taught by Leonard above. The modification would have been obvious to rectify the airflow by directing the airflow

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with the shroud and spoiler, and therefore, oscillation of the head can be prevented, as taught by Leonard in col. 3, lines 36-39).

As per claim 15, Shibuya shows in Fig. 1 a disk unit, wherein the airflow is regulated by the second member 23 (See Fig. 11) for flowing in a radial direction of the disc.

As per claim 16, Shibuya shows in Fig. 10 a disk unit wherein the first member 2 is a shroud and the second member 23 (See Fig. 10) is a spoiler.

As per claim 19, Shibuya shows in Fig. 1 a disk unit wherein the airflow-regulating member 23 (See Fig. 11) is a spoiler.

As to claims 2 and 9, Shibuya does not disclose a disk unit, wherein said shroud and said spoiler are provided in a counter-rotational direction of the disk from the actuator.

Leonard shows in Fig. 1 a disk unit 3 wherein a shroud 12 (the left one) and a spoiler 13 (near to the tail of the arrow a) are provided in a counter-rotational direction of the disk from the actuator (The "arrow a" determines the rotation direction of the disc 14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disk unit of Shibuya with a shroud and a spoiler being located in a counter-rotational direction of the disk from the actuator, as taught by Leonard above. The modification would have been obvious to rectify the airflow by directing the airflow with the shroud and spoiler, and therefore, oscillation of the head can be prevented, as taught by Leonard in col. 3, lines 36-39).

As per claim 3, Shibuya does not disclose a disk unit, wherein the shroud is provided in the counter-rotational direction of the disk from said spoiler.

Leonard shows in Fig. 1 a disk unit 3, wherein the shroud 13 (near to the pointed-head of arrow a) is provided in the counter-rotational direction of the disk from said spoiler 12 (the right one, and the "arrow a" determines the rotation direction of the disc 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disk unit of Shibuya having the shroud that is provided in the counter-rotational direction of the disk from the spoiler as taught by Leonard above. The modification would have been obvious to rectify the airflow by directing the airflow with the shroud and spoiler, and therefore, oscillation of the head can be prevented, as taught by Leonard in col. 3, lines 36-39).

As per claim 4, Shibuya does not disclose a disk unit, wherein the shroud has an end in the rotational direction of the disk, the end being separated from a surface of the spoiler by a distance of 5 mm or less, the surface receiving airflow generated by disk rotation.

Leonard shows in Fig. 1 a disk unit 3, wherein the shroud 13 (near to the pointed-head of the arrow a) has an end in the rotational direction of the disk, the end being separated from a surface of the spoiler 12 (the right one) by a distance D, the surface receiving airflow generated by disk rotation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide disclose a disk unit, wherein the shroud has an end in the rotational direction of the disk, the end being separated from a surface of the spoiler by a distance D, the surface receiving airflow generated by disk rotation, in order to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34).

Leonard does not disclose the distance D in claim 4 that is equal to 5mm or less.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a disk unit, wherein the shroud has an end in the rotational direction of the disk, the end being separated from a surface of the spoiler by a distance D of 5 mm or less.

The motivation would have been obvious because one of ordinary skill in the art would have been motivated to modify the distance D is equal to 5 mm or less in the course of routine engineering optimization/experimentation to regulate the airflow generated by the disc rotation to the spoiler for decelerating the airflow.

Moreover, absent in showing of criticality, i.e., unobvious or unexpected results, the condition of “the distance D being equal to 5 mm or less” as set forth in claim 4 is considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

In furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.



As per claim 10, Shibuya does not disclose a disk unit, wherein the spoiler has a surface for receiving airflow generated by disk rotation, the surface being away from the boundary by a distance  $D'$  of 5 mm or less.

Leonard shows in Fig. 1 a disk unit 3, wherein the spoiler 12 has a surface for receiving airflow generated by disk rotation, the surface being away from the boundary by a distance  $D'$ .

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a disk unit, wherein the spoiler has a surface for receiving airflow generated by disk rotation, the surface being away from the boundary by a distance  $D'$ , in order to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34).

Leonard does not disclose the distance  $D'$  in claim 10 being equal to 5mm or less.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a disk unit, wherein the shroud has an end in the rotational direction of the disk, the end being separated from a surface of the spoiler by a distance  $D$  of 5 mm or less.

The motivation would have been obvious because one of ordinary skill in the art would have been motivated to modify the distance  $D'$  is equal to 5 mm or less in the course of routine engineering optimization/experimentation to receive the airflow generated by the disc rotation.

Moreover, absent in showing of criticality, i.e., unobvious or unexpected results, the condition of "the distance  $D'$  being equal to 5 mm or less" as set forth in claim 10 is considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

In furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); *see In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; *see Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

As to claim 12, Shibuya does not disclose a disk unit, wherein the first and second members are provided in a counter-rotational direction of the disk from the actuator.

Leonard shows in Fig. 1 a disk unit 10 wherein a first member 13 (near to the tail of the arrow a) is provided in a counter-rotational direction (The arrow a determines the rotational direction of the disc) of the disk from the actuator (The actuator in slot 6 is not shown).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disk unit of Shibuya with a disk unit, wherein said first and second members are provided in a counter-rotational direction of the disk from the actuator. The motivation would have been: the location of the first and second member of the airflow-regulating member allows to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34).

As per claim 13, Shibuya does not disclose a disk unit, wherein the first member is provided in the counter-rotational direction of the disk from said second member.

Leonard shows in Fig. 1 a disk unit 3, wherein a first member 13 is provided in the counter-rotational direction of the disk from a second member 12 (the first member 13 on the right of the "arrow a" and below the second member 12, and the "arrow a" determines the rotation direction of the disc 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disk unit of Shibuya with a disk unit, wherein the first member is provided in the counter-rotational direction of the disk from said second member, in order to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34).

As per claim 14, Shibuya does not disclose a disk unit wherein the first member and the second member are formed integrally with each other.

Leonard shows in Fig. 1 a disk unit wherein the first member 13 and the second member 12 are formed integrally with each other.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disk unit of Shibuya with a disk unit, wherein the first member and the second member are formed integrally with each other, in order to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34).

As per claim 18, Shibuya does not disclose a disk unit, wherein the airflow-regulating member is provided in a counter-rotational direction of the disk from the actuator.

Leonard shows in Fig. 1 a disc unit having an airflow-regulating member 12 (the left one) is provided in a counter-rotational direction of the disk (The "arrow a" determines the rotational direction of the disc) from the actuator (the actuator is not shown).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disk unit of Shibuya with a disk unit, wherein the airflow-regulating member is provided in a counter-rotational direction of the disk from the actuator. The motivation would have been: the location of the airflow-regulating member allows to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34).

#### **Prior art cited**

5. The prior art made record and not relied upon is considered pertinent to applicant's disclosure.

Ekhoff (U.S. Pat. No. 6,097,568) discloses the disc drive apparatus for reducing the vibration of the discs.

Brooks (U.S. Pat. No. 5,025,337) discloses a circulating air filter system for rotating disc drives.

#### **INQUIRES**

6. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a disk unit, wherein the first member is provided in the counter-rotational direction of the disk from said second member, in order to induce the airflow generated by the disc rotation to the air filter, as taught by Leonard in col. 1, lines 24-34). Any inquiry concerning this communication or earlier communications from the examiner should be


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directed to Minh Le whose telephone number is (703) 305-7867. The examiner can normally be reached on 10:00AM - 7:00PM (Mon- Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3718 for regular communications and (703) 305-3718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

ML  
February 28, 2003

  
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3/8/03